

REMARKS

Reconsideration of the above-identified application, in view of the following remarks, is respectfully requested.

I. Status of the Claims

After entry of this amendment, claims 1, 2 and 5-9 are pending. Claims 3 and 4 have been canceled without prejudice.

Claims 1, 6 and 7 are amended. Claim 1 has been amended to incorporate the limitation of original claims 3 and 4, and now recites that the pigment is “subjected to surface treatment with a water soluble polymer and a surfactant”. Support for this amendment is also found in the specification, at page 11, lines 16-17. Claim 1 has also been amended to delete the Markush group element “non aromatic cyclic hydrocarbon,” and to correct a clerical error.

Claim 7 has been amended to correct a minor typographical error. The amendment to claim 7 is not a narrowing amendment.

Support for these amendments may be found in the specification at page 9, lines 15-16, page 11, lines 16-17, and in the claims as filed.

No new matter is added by these amendments.

II. Rejection of Claims 1-9 Under 35 U.S.C. § 112

Claims 1-9 stand rejected under 35 U.S.C. § 112, first paragraph, for lack of written description. The Examiner contends that the claims do not reasonably convey that the inventors had possession of the invention at the time of filing. Specifically, the Examiner asserts that the phrase “non-aromatic cyclic hydrocarbon” in claims 1 and 6 “clearly signifies a ‘negative’

or ‘exclusionary’ limitation for which applicants have no support in the original disclosure”.

While applicants respectfully disagree with the Examiner, in order to further prosecution of this application, claim 1 has been amended to recite that the hydrophobic group is selected from the group consisting of a linear hydrocarbon, a halogenated alkyl, an organosilicon group and a fluorinated carbon group. The Markush group element “non-aromatic cyclic hydrocarbon” has been deleted from claim 1.

Accordingly, applicants believe the rejection under 35 U.S.C. §112 has been overcome, and respectfully request that the rejection be withdrawn.

III. Rejection of Claims 1, 2, 5, and 7-9 Under 35 U.S.C. § 103 over JP 6346014 (JP ‘014) in view of U.S. Patent No. 5,478,602 to Shay et al.

Claims 1, 2, 5, and 7-9 stand rejected as being obvious over JP ‘014 in view of Shay *et al.* The Examiner contends that JP ‘014 discloses a water based ink composition for ball-point pens which comprises pigment, polar solvent comprising water and other solvent (such as ethylene glycol), pH controlling agent, and 0.01-10% thickener which swells in an alkaline medium resulting in an increase in viscosity of the ink. The Examiner admits that the difference between JP ‘014 and the present invention is the requirement in the present claims for a specific type of thickener, and asserts that Shay *et al.* disclose thickeners comprising carboxyl groups and hydrophobic groups. The Examiner thus concludes that it would have been obvious to one of ordinary skill in the art to use such thickeners in the inks of JP ‘014.

Applicants respectfully traverse this rejection, on the grounds that claim 1 as amended requires that the pigment particles be subjected to surface treatment with a water soluble polymer and a surfactant. As the Examiner concedes at page 5, lines 4-6 of the Office Action, the combination of JP ‘014 and Shay *et al.* does not disclose a composition comprising

pigment particles that are surface treated with resin and a surfactant. As a result, the combined teachings of JP '014 and Shay *et al.* do not describe the claimed water based ink composition.

In view of the action taken and arguments made, it is believed that the above-referenced rejection under 35 U.S.C. § 103 has been overcome. Applicants respectfully request that the rejection be withdrawn.

IV. Rejection of Claims 3 and 4 Under 35 U.S.C. § 103 over JP '014 in view of Shay *et al.*, and further in view of U.S. Patent No. 4,822,417 to Kobayashi *et al.* or JP 54138732 (JP '732)

Claims 3 and 4 stand rejected as obvious over JP '014 in view of Shay *et al.*, and further in view of Kobayashi *et al.* or JP '732. The Examiner states that the difference between the teachings of JP '014 and Shay *et al.* and claims 3 and 4 is the requirement in the claims that the pigment be surface treated with a resin and/or surfactant. The Examiner further contends that both JP '732 and Kobayashi disclose the use of pigments surface treated with resins in writing ink compositions, and that consequently it "would have been obvious to one of ordinary skill in the art to use this type of pigment in the ink of JP ['014] in order to produce an ink that has excellent dispersability, stability, and water-resistance, and thereby arrive at the claimed invention."

Applicants respectfully traverse these rejections, on the grounds that the combined teachings of Kobayashi and JP '732 do not result in the claimed composition.

The present claims are directed to a water based ink composition. In contrast, Kobayashi describes only oil soluble ink compositions, containing oil soluble dyes and pigments. The physical properties of the components of an oil-based ink composition, e.g. decaglycerol fatty acid esters, organic solvents and oil soluble dyes, are substantially different from the

components of aqueous ink compositions. The resins contemplated by Kobayashi and identified at col. 2, lines 50-64, are believed to be oil soluble resins. Kobayashi does not describe or suggest the use of pigments surface treated with water soluble resins in aqueous compositions.

Additionally, Kobayashi does not describe or suggest surface treatment of pigment particles with a water soluble polymer and a surfactant, as required by the present claims. As noted by the Examiner, the resins of Kobayashi are chosen for the purposes of imparting stability and water resistance to the ink composition.

JP '732 teaches graft-polymerizing a water soluble monomer onto part of the pigment in an aqueous solution in order to enhance the dispersability and water resistance of the ink. There is no description or suggestion of surface treating pigment particles with a surfactant. In contrast, in the present invention, the pigments are surface treated with a water soluble polymer and a surfactant.

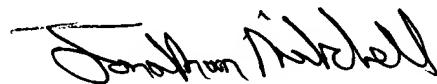
In view of the amendments and arguments made, it is believed that the above-referenced rejection under 35 U.S.C. § 103 has been obviated, and it is respectfully requested that the rejection be withdrawn.

IV. Conclusion

In view of the foregoing, it is believed that claims 1, 2, and 5-9 are not obvious over the prior art of record. Claims 1, 2, and 5-9 are believed to be in condition for allowance. Applicants respectfully request that the subject amendment be entered and the case passed to issue. In any event, it is requested that the subject amendment be entered as placing the application in better condition for Appeal.

Favorable action is earnestly solicited.

Respectfully submitted,



November 13, 2002

Jonathan P. Mitchell
Registration No. 50,239
Agent for Applicants

DARBY & DARBY, P.C.
805 Third Avenue
New York, New York 10022
(212) 527-7700



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File No. 3404/0F546

IN THE UNITED STATES PATENT AND TRADEMARK OFFICEIn re Application of: Masaru MIYAMOTO *et al.* Confirmation No. 9716

Serial No.: 09/297,399

Group Art Unit: 1714

Filed: April 29, 1999

Examiner: C. E. SHOSHO

For: WATER BASED INK COMPOSITION FOR BALLPOINT PEN

MARK-UP AMENDMENT OF NOVEMBER 13, 2002
PURSUANT TO 37 C.F.R. §1.121

Assistant Commissioner for
Patents
Washington, DC 20231

November 13, 2002

IN THE CLAIMS:

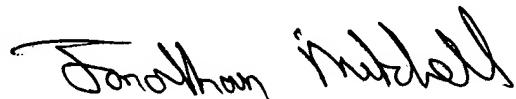
1. (Five Times Amended) A water based ink composition for a ballpoint pen which comprises a thickener which is associative and swells in an alkaline medium, said thickener comprising a polymer having a carboxyl group and a hydrophobic group selected from the group consisting of a linear hydrocarbon, [a non-aromatic cyclic hydrocarbon, an] a

halogenated alkyl, an organosilicon group, and a fluorinated carbon group, a pigment whose particles are subjected to surface treatment with a water soluble polymer and a surfactant, a polar solvent comprising water and other water-miscible solvents and a pH controlling agent.

6. (Twice Amended) The water based ink composition for a ballpoint pen of claim 1 wherein the hydrophobic group is a [non-aromatic cyclic] linear hydrocarbon.

7. (Amended) The water based ink composition for a ballpoint pen of claim 1 wherein the hydrophobic group is [an] a halogenated alkyl.

Respectfully submitted,



Jonathan P. Mitchell
Registration No. 50,239
Agent for Applicants

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DARBY & DARBY, P.C.
805 Third Avenue
New York, New York 10022
(212) 527-7700